

Notice of Allowability

Application No.

09/537,308

Applicant(s)

CHOI ET AL.

Examiner

Jakieda R Jackson

Art Unit

2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to June 14, 2004.
2. ☒ The allowed claim(s) is/are 1-24.
3. ☒ The drawings filed on 29 March 2000 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB-08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

Allowable Subject Matter

1. **Claims 1-24** are allowed.

The following is a statement of reasons for allowance:

As for independent claims 1, 9, 15 and 20 they recite a methods and apparatuses for inserting a watermark signal into audio signal data and extracting a watermark from watermark-embedded audio data comprising Fourier transforming the audio data, wavelet transforming the first component of the Fourier transformed data and then embedding the watermark, Discrete cosine transforming a watermark signal, and inverse wavelet transforming and inverse Fourier transforming to for watermarked-embedded audio data. Prior art such as Wu et al, Lee et al., Cox et al. and Senoh et al. teach similar methods and apparatuses that commonly uses transformations of watermarking schemes for image authentication such as Discrete Cosine Transformation (DCT), Discrete Fourier transformation (DFT) and Wavelet transformation, but fails to teach the recited steps of Fourier transforming audio signal data/watermark-embedded in the frequency domain in a form of first and second components, wavelet transforming absolute values of said first components to generate first spectral coefficients, discrete cosine transforming a watermark signal to generate second spectral coefficients, combining/taking the difference said first and second spectral coefficients, and Inverse wavelet transforming the combined coefficients/the differences.

Dependent claims 2-8, 10-14, 16-19 and 21-24 are allowed because they further limit their parent claims.

Conclusion

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Wu et al. (U.S. Patent No. 6,285,775) discloses a watermarking scheme for image authentication.
- Lee et al. (U.S. Patent No. 5,687,191) discloses post-compression hidden data transport.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jakieda R Jackson whose telephone number is 703.305.5593. The examiner can normally be reached on Monday through Friday from 7:30 a.m. to 5:00p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on 703. 305.4827. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair->


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direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JRJ
August 18, 2004



W. R. YOUNG
PRIMARY EXAMINER